

NGDA Dataset Report

Official NGDA Title: NGDC Marine Trackline Geophysics Database

Metadata Record Title: NGDC Marine Trackline Geophysics Database

A-16 NGDA Theme: Elevation

Executive NGDA Theme Champion(s):

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Metadata:

Registration Status: Complete

Registered on 3/20/2015

GeoPlatform Link*: <https://www.geoplatform.gov/node/243/27de0246-a1df-45b8-88a6-a5c1733b916f>

Data.gov Metadata Link*: <http://catalog.data.gov/harvest/object/37c67e65-a95a-495c-87ee-1eb070bade45/html>

*If the metadata has been updated and reharvested after publication of this report, the link may no longer be valid. The dataset may be searched for manually in Data.gov or GeoPlatform.gov.

NGDA Lifecycle Maturity Assessment (LMA) Report

Time Frame:

1977 to 2015

LMA Submission:

Status: Complete

Date: 11/2/2015

Extension Requested: No

LMA Reviewer(s):

Supervisor: Did not review

Theme Lead: Tony LaVoi

Executive Champion: Did not review

SAOGI*: Did not review

Other: Anne Ball

LMA Verifier:

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Attachments:

To get access to any attachments referenced in the report, email the LMA Help Desk at NGDA_LMA_help@fgdc.gov. Please use the subject "Dataset Report Attachment(s)" and indicate the associated official NGDA title.

*Senior Agency Official for Geospatial Information (SAOGI)

Lifecycle Maturity Assessment (LMA) Summary

Overall Maturity:

Optimized; Established

General Questions: 91%

Optimized; Established

Stage 1 - Define/Plan: 100%

Optimized; Established

Stage 2 - Inventory/Evaluate: 100%

Optimized; Established

Stage 3 - Obtain: 87%

Mature; Consistent

Stage 4 - Access: 100%

Optimized; Established

Stage 5 - Maintain: 100%

Optimized; Established

Stage 6 - Use/Evaluate: 89%

Mature; Consistent

Stage 7 - Archive: 100%

Optimized; Established

NGDA Dataset Maturity Definitions:

How To Calculate Maturity: https://www.geoplatform.gov/sites/default/files/How_to_Calculate_Maturity.pdf

Maturity	Maturity Characteristics for All Lifecycle Stages
Optimized; Established Rank = 5	Dataset meets virtually all business needs of all users. The dataset is considered authoritative by owners and secondary users. It is curated across all stages of the approved lifecycle. Future needs are defined on a regular basis and resources for addressing both current and future business requirements are available.
Mature; Consistent Rank = 4	Dataset meets all the business needs of the primary owner and most of the secondary users. The dataset is curated and used as authoritative by the primary owner. Dataset is used widely by secondary users actively engaged in sustaining the dataset. Future needs are identified and steps are planned to address these. All stages are supported and reviewed on a recurring basis. The dataset is well managed in relation to the approved lifecycle.
Managed; Predictable Rank = 3	Dataset meets a significant number of the business needs of the primary owner and is widely used as an authoritative resource by secondary users. Benchmark activities are occurring in at least four of the approved lifecycle stages. Management practices in relation to the approved lifecycle is moderate but consistent. Dataset is integrating changing business requirements in lifecycle stages impacting overall maturity.
Transition; Transformation Rank = 2	Dataset meets business needs of the primary owner and has moderate use by secondary users. Benchmark activities are occurring in at least three stages. Efforts to integrate funding, include partners, and obtain data are not supported in a sustained manner. Management practices in relation to the stages of the approved lifecycle is limited.
Planned; Initial Development Rank = 1	Dataset limited in meeting business needs of the primary owner. Benchmark activities in the approved lifecycle are just starting to consider secondary uses, partnerships are forming to support additional dataset uses. Dataset development is in a very early stage. Minimal or limited management against the benchmarks in the approved lifecycle.
No Activity Rank = no activity	Dataset meets project or local business needs of the primary owner, secondary or additional uses or users were not considered, not recognized as an authoritative data or is part of a similar dataset. Not managed to any of the benchmarks in the approved lifecycle.

General Questions for All Stages

1) Is there a recurring process to obtain funding for all lifecycle stages of this dataset?

Answer: Funding support exists but is not adequate to meet known requirements, most lifecycle stages are supported.

Justification Comment:

Attachment(s): 0

Base funds support this dataset. Additional funding could improve data coverage, data acquisition and quality review.

2) Is there a process in place to ensure that open government and transparency guidelines are followed in all lifecycle stages for this dataset?

Answer: Process is published as appropriate with respect to sensitivity requirements, process is transparent, published appropriately.

Justification Comment:

Attachment(s): 0

Management of this dataset follows all scientific data management per the NOAA Administrative Order "NAO 202-735D: Scientific Integrity." NAO 202-735D outlines how NOAA complies with Open Government and Transparency requirements for all scientific data.

3) Are there processes and tools in place so that staff are sufficiently knowledgeable to ensure a continuity of the dataset for all stages of the lifecycle, especially during staffing transitions?

Answer: Processes and tools to ensure dataset continuity are in place and implemented for all lifecycle stages.

Justification Comment:

Attachment(s): 0

Records Custodial Unit (RCU) is managed by Dan Kowal at NCEI-Colorado. Ample documentation and pass down is provided to transition to the next data manager. Documentation covers end-to-end data management SOPs that are reviewed periodically and updated as technology and strategies evolve.

STAGE 1 - Define/Plan

4) Are user and business requirements defined and formalized?

Answer: A recurring process is in place, including defining new partner and stakeholder business needs as they arise, and is fully implemented.

Justification Comment:

Attachment(s): 0

Multiple processes are in place to address partner and stakeholder needs. See UNOLS R2R Program Submission Agreement between Lamont Doherty Earth Observatory and NCEI. This document captures data descriptions, points of contact, data submission sessions, archival management, metadata management, data access descriptions and references to support documentation that will service the data collection during it's lifecycle.

5) How are partners/stakeholders involved in the requirements collection process?

Answer: A recurring process is in place, including defining new partner and stakeholder business needs as they arise, and is fully implemented.

Justification Comment:

Attachment(s): 0

The Submission Agreement between the UNOLS R2R Program at Lamont Doherty Earth Observatory and NCEI is reviewed periodically with stakeholders and updated as necessary to reflect current operations and identify any issues with the archival arrangement. In addition through the course of normal business practices and interfacing with data users, the data manager elicits data user requirements and suggestions.

6) Is there a quality assurance process for the dataset?

Answer: Quality assurance published as appropriate with respect sensitivity requirements.

Justification Comment:

Attachment(s): 0

Incoming data are scanned for impossible and suspect values which are flagged or deleted as appropriate. Data provider may be consulted during evaluations, occasionally providing updated/corrected versions.

7) Is there a process to evaluate the sensitivity, privacy, and confidentiality of this dataset?

Answer: Sensitivity, privacy, and confidentiality evaluations fully implemented, reviewed and updated on a recurring basis.

Justification Comment:

Attachment(s): 0

Data contributors are notified that "Any data received are in the international public domain, readily available globally to any interested individual or group."

8) Are defined data standards used in collecting, processing, and/or rendering the data?

Answer: Standards fully implemented documented and published as appropriate.

Justification Comment:

Attachment(s): 0

Incoming data may be received in or converted to standard formats: MGD77T format for underway marine gravity, magnetics, single-beam bathymetry; industry standard format SEG-Y for seismic reflection data. MGD77T format specifications are available on-line and also provided with all downloaded data.

In January of 1977, a group of 24 geophysical data managers from academia, government, industry and foreign countries participated in a workshop at the National Geophysical Data Center (NGDC) in Boulder, Colorado. The "Workshop for Marine Geophysical Data Formats" established the basic outline of a new format for the exchange of digital underway geophysics data. A six member task force was formed to work with NGDC in implementing the decisions of the workshop into the new format. By the end of 1977 the "MGD77" format was being disseminated by NGDC as its standard exchange format.

The "MGD77" format has experienced much success over the past 38 years. It has been sanctioned by the Intergovernmental Oceanographic Commission (IOC) as an accepted standard for international data exchange, and it has been translated into French, Japanese, and Russian. The newest revision adds a tab-delimited version of the format: "MGD77T". This allows expanded field lengths, space savings, and easier import into spread sheets, DBMS databases, and various low-level programs.

STAGE 2 - Inventory/Evaluate

9) Is there a process for determining if data necessary to meet requirements already exist from other sources (either within or outside the agency) before collecting or acquiring new data?

Answer: Process for determining appropriate data is being reused fully implemented, reviewed, and updated on a regular basis.

Justification Comment:

Attachment(s): 0

Although we do not collect or purchase data, this dataset is used by many external organizations to determine their need to collect data which may be duplicative. Incoming data are reviewed for duplication and determinations made re: variations in processing, preferred or alternate versions.

STAGE 3 - Obtain

10) Is there a process for obtaining data in relation to this dataset?

Answer: Process is fully implemented, reviewed and updated on a regular basis.

Justification Comment:

Attachment(s): 0

This dataset is the repository for Underway Marine Geophysical Data collected with U.S. tax dollars funded by the National Science Foundation. This function is defined in the Submission Agreement in place between NOAA/NCEI and UNOLS R2R to archive and distribute data from 62 academic institutions and National Laboratories involved in oceanographic research. NOAA/NCEI also hosts and operates the International Hydrographic Organization Data Center for Digital Bathymetry (IHO DCDB) on behalf of the IHO member states as a focal point to contribute and share international digital bathymetric data.

11) Is the metadata in a FGDC endorsed geospatial metadata standard?

Answer: Metadata is available in a format endorsed by the FGDC, it fully describes the dataset and provides all the information required to make the dataset discoverable, accessible, and usable.

Justification Comment:

Attachment(s): 0

ISO 19115-2 collection level metadata, registered with Data.gov and compliant with current NGDA Metadata Guidelines.

12) How complete is the geographic coverage as defined in the requirements for the dataset?

Part 1 Answer: Business requirements for cyclic updates identified and a process is in place.

Part 2 Answer: Data set is roughly 50% of the geographic coverage is presently complete per current requirement.

Justification Comment:

Attachment(s): 0

Part 1

The business requirement could be considered to be "provide access to the best available data" Data contributions continue to be received from a variety of sources and the dataset updated both on-line and in the archive.

Part 2

Geographic coverage is never "complete". Geographic extent is global, variably distributed over the world ocean and defined by the travel paths of individual ships. The northern hemisphere generally has more coverage than the southern hemisphere due to the fact of greater ship traffic in the northern hemisphere. Although no geographic coverage or resolution requirement exists, additional data are continually added to supplement previous data increasing the utility of this dataset.

STAGE 4 - Access

13) Do you have a process for providing users access to the data in an open digital machine readable format?

Answer: User access process is fully implemented, data is available, process is reviewed and updated on a recurring basis.

Justification Comment:

Attachment(s): 0

Data are fully searchable on-line and available for download in a variety of user selectable digital formats: MGD77T, XYZ, single file, multiple files, complete surveys, data clipped to user defined area.

STAGE 5 - Maintain

14) Is there a maintenance process for updating and storing the dataset?

Answer: Dataset maintenance process is fully implemented and processes are reviewed and periodically updated.

Justification Comment:

Attachment(s): 0

Standard operating procedures are documented for internal and external processes which evolve over time, working with data providers and modifying Submission Agreements. NCEI follows NARA

standards and maintains computer and tape storage rooms to the climate-controlled specifications. 2nd copies of archived data goes to an offsite climate-controlled facility maintained by the Data Center, and all data on spinning disk is backed up. Media refresh of archived data occurs within the industry standard guidelines between 5 - 10 years, and has occurred more frequently before 5 years.

15) Is there an error correction process as part of dataset maintenance?

Answer: Error correction process includes user notification, process reviewed on a recurring basis.

Justification Comment:

Attachment(s): 0

Incoming data are scanned for impossible and suspect values which are flagged or deleted as appropriate. Data provider may be consulted for evaluations and possibly providing updated/corrected version(s). Feedback from users regarding possible errors are reviewed and appropriate actions taken: corrections made and data replaced; errors referred to data provider for review; metadata modified to reflect corrections made or to identify suspected errors.

STAGE 6 - Use/Evaluate

16) Is there a process to determine if the dataset meets user needs?

Answer: Process is complete and being implemented on ad hoc basis.

Justification Comment:

Attachment(s): 0

Much work has been done to make the data accessible and easily integrated with other data and ingested into varied systems. User needs for data coverage are widely variable. The dataset satisfies some users' needs while others use the dataset within the limits of its applicability and possibly, based upon specific needs, decide to collect additional new data. User comments are considered when defining desired system/data modifications.

17) Is there a process to provide users information on how to access and properly use the dataset?

Answer: Process is fully implemented supporting access and proper use, process is reviewed on a recurring basis.

Justification Comment:

Attachment(s): 0

On-line dataset overview; On-line Help for using on-line map; On-line Help for how to get data and choose downloading options; readme.txt included with data downloads; format documentation available on-line and included with data downloads.

18) Are the business processes and management practices assessed to meet changing technology?

Answer: Assessment process is fully implemented for taking advantage of changing technology, process is reviewed on a recurring basis.

Justification Comment:

Attachment(s): 0

Dataset has been in continuous evolution for over 38 years incorporating new technologies: from magnetic tapes to DOS interface to MS Windows and UNIX interface; from physically mailing data to CD-ROM to DVD to www access; modernizing format from fixed length fields to delimited fields; migrating from custom software to modern geospatial database tools; incorporating newly developed generic Data Center processes where Data Access has been implemented, Data Archive is being addressed and software development is anticipated for Data Ingest.

STAGE 7 - Archive

19) Is there an archiving process for the dataset?

Answer: Archival and disposition processes are fully implemented.

Justification Comment:

Attachment(s): 0

Documented Standard Operating Procedures specify that for this dataset original data files and NCEI-processed/reformatted files are archived. 2nd copies of archived data go to an offsite climate-controlled facility maintained by the Data Center.

